

Work Order ID 71320

Tuesday, June 28, 2011 10:05:19 AM



Page 1

Item ID: D3391-025

Accept



Setup Start



Revision ID:

Stop



Item Name: Aft Tube Assembly

Start Date: 6/28/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 7/28/2011 Req'd Qty: 1.00

Customer:

Reference:

Run Start



Approvals: Process Plan: mf Date: 11-06-28 Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3391	Rev H/ DEO

100 0.00



MORI SEIKI CNC LATHE LARGE

Mori Seiki Memo 0.00

Mori Seiki CNC Lathe Large Turn as per Folio FA599 Rev: _____ & Dwg D3391 Rev: _____

scribe batch # on fwd end at 90 degree

110 0.00



QC2- Inspect parts off machine FAI/FAIB

QC Memo 0.00

Quality Control

111 0.00



QC8- Inspect parts - second check

QC Memo 0.00

Quality Control

1 Ø

mm. 11/08/15

1 Ø

mm, 2 11/08/15

CA 11/18/22

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 71320

Tuesday, June 28, 2011 10:05:19 AM



Page 2

Item ID: D3391-025

Accept



Setup Start



Revision ID:

Stop



Item Name: Aft Tube Assembly

Start Date: 6/28/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 7/28/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 HAAS 1 HAAS CNC vertical machine #1	HAAS CNC VERTICAL MACHINING #1 Memo 1-Machine as per Folio FA 599 Rev: <u>HA</u> 2-Debur	0.00 0.00		<u>11-8-19</u>		<u>1</u>			
130 QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo	0.00 0.00		<u>11-8-19</u>		<u>1</u>			
140 QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00		<u>11/8/22</u>					

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP		Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
				Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 71320

Tuesday, June 28, 2011 10:05:19 AM



Page 3

Item ID: D3391-025

Accept



Setup Start



Revision ID:

Stop



Item Name: Aft Tube Assembly

Start Date: 6/28/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 7/28/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

DP

11-8-22

160

0.00



CNC Bend 1

BENDING MACHINE - SKIDTUBES

Memo

0.00

Form as per Dwg D3391 Using Bend Prog 3391025

DP

11-8-22

170

0.00



QC

QC5- Inspect part completeness to step on W/O

Memo

0.00

4.02

1 0 3611/08/22

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
		SE-8-11	KE					

NOTE: Date & initial all entries

Work Order ID 71320

Tuesday, June 28, 2011 10:05:19 AM



Page 4

Item ID: D3391-025

Accept



Setup Start



Revision ID:

Stop



Item Name: Aft Tube Assembly

Start Date: 6/28/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 7/28/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

180

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Open Aft cap pilot hole to .208" as per Dwg D3391

2-Drill float bag holes using DT8809 as per Dwg D3391(Holes marked "A" Only.

3-Drill wearplate holes as per Dwg D3391 using DT8878(Mid Tube) & DT8217
Wearplate Jig.

*****Do Not Open To Finished Size*****

4-Drill Wearshoe holes as per DWG D3391 using DT8939 locating from 2
previously drilled aft wearplate holes.

5-Open wearplate holes to 0.250" and c'bore as per dwg D3391

6-Open up all wearshoe, wearplate to 0.297"and float bag holes to 0.328" as per
Dwg D3391.

7-Deburr

11-9-15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 71320

Tuesday, June 28, 2011 10:05:19 AM



Page 5

Item ID: D3391-025

Accept



Setup Start



Revision ID:

Stop



Item Name: Aft Tube Assembly

Start Date: 6/28/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 7/28/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

S. W. L. K. E. T. :

86

200

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

JW

11-09-19

210

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

DP

11-9-19

W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 71320

Tuesday, June 28, 2011 10:05:19 AM



Page 6

Item ID:	D3391-025	Accept		Setup	Start	
Revision ID:					Stop	
Item Name:	Aft Tube Assembly					
Start Date:	6/28/2011	Start Qty:	1.00		Cust Item ID:	
Required Date:	7/28/2011	Req'd Qty:	1.00		Customer:	
Reference:						

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220 	Skidtubes	0.00							
Skidtubes	Memo	0.00							B 11/09/19
Skidtubes	Instal spacers as per dwg D3391 A/R Magnabond 6398 Batch: 117870- exp. date: 08/2012 cure time 12hrs as per QSI0015								OK 11/09/20
230 	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							OK 11/09/20
Quality Control									
235 	Pressure Wash per QSI005 4.3	0.00							
HandFinish	Memo	0.00							IX Ø m 11/09/26
Hand Finishing	AND REALODINE AS PER PAR09-043								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP		Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
				Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 71320

Tuesday, June 28, 2011 10:05:19 AM



Page 8

Item ID: D3391-025

Accept



Setup Start



Revision ID:

Stop



Item Name: Aft Tube Assembly

Start Date: 6/28/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 7/28/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

270

QC5- Inspect part completeness to step on W/O

0.00

S ulon/28



QC

Memo

0.00

Quality Control

280

Identify as per dwg & Stock Location: wlo

0.00

D412-742-043/1371325



Packaging

Memo

0.00

Packaging

1 d 11/10/03

290

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/10/03

ME 11-09-28

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:			WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP		Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
				Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Tuesday, June 28, 2011 10:05:16 AM

Parent Item: D3391-025





Parent Item Name: Aft Tube Assembly

Start Date: 6/28/2011**Required Date:** 7/28/2011

Start Qty: 1.00

Required Qty: 1.00

Comments:	IPP Rev B	06-02-07	ECN773 dwg rev. D	EC	
	IPP Rev:C	06-03-28	Update Manuf. Instructions	JLM	□□□□
	IPP rev D	07.03.20	revF dwg	EC	
	IPP rev E	07.11.07	rev G dwg ecn 1053p	EC	verified by: DD
	IPP Rev:F	07-11-13	ECN 1056	DD	verified by: EC
	IPP Rev:G	08-09-10	revH as per dwg	DD	verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6014-090 		Manufactured	No			100	Each	0.0000	1	1			
ALUMINUM EXTRUSION													
D3670-4-200 		Manufactured	No			230	Each	38.0000	4	4			
SPACER													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				LG		38							
				70822		38							
D2646 		Manufactured	No			270	Each	74.0000	1	1			
Aft Cap													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				FP004		60							
				68280		60				x1			
				FP006		14							
				62678		14							
D3537-1 		Manufactured	No			270	Each	41.0000	1	1			
Wearpad													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				FP017		41							
				69278		34							
				69817		7		B72121		x1			

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, June 28, 2011 10:05:16 AM

Page 2

Work Order ID: 71320

Parent Item: D3391-025

Parent Item Name: Aft Tube Assembly

Start Date: 6/28/2011

Required Date: 7/28/2011

Start Qty: 1.00

Required Qty: 1.00

D3537-7

Manufactured No

270

Each

4.0000

1

1



Wearpad



xl 11/09/28

Location

Loc Qty

Loc Code

FP019

4

69320

4

B71689

xl

D3553-1

Manufactured No

270

Each

8.0000

1

1



Gasket



xl 11/09/28

Location

Loc Qty

Loc Code

FP013

8

56568

8

B73155

xl

D3553-3

Manufactured No

270

Each

32.0000

1

1



Gasket



xl 11/09/28

Location

Loc Qty

Loc Code

FP

20

31631

20

FP013

12

53480

12

xl

D3672-1

Manufactured No

270

Each

1,122.000

2

2



Phenolic Washer



xl 11/09/28

Location

Loc Qty

Loc Code

ST074

1096

64177

596

66821

500

xl

ST077

26

52505

26

Tuesday, June 28, 2011 10:05:17 AM

Shop Packet Print

Page 2

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP		Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
				Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, June 28, 2011 10:05:17 AM

Page 3

Work Order ID: 71320

Parent Item: D3391-025

Parent Item Name: Aft Tube Assembly

Start Date: 6/28/2011

Required Date: 7/28/2011

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-130 Purchased

No

260

Each

1,122.000

14

14



Insert ALS7-1032-130



11/09/28

Location

Loc Qty

Loc Code

ST281

8

117331

8

ST282

1114

117717

1114

x14

ALS4-1032-225 Purchased

No

270

Each

666.0000

12

12



Insert

*



11/09/28

Location

Loc Qty

Loc Code

ST282

666

110768

213

117717

453

1118696

x12

AN3C4A Purchased

No

270

Each

2,162.000

6

6



BOLT



11/09/28

Location

Loc Qty

Loc Code

ST350

2162

117313

2

117688

776

117795

500

117872

22

118012

500

118112

362

1118983

x6

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:			WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP		Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
				Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, June 28, 2011 10:05:17 AM

Page 4

Work Order ID: 71320

Parent Item: D3391-025

Parent Item Name: Aft Tube Assembly

Start Date: 6/28/2011

Required Date: 7/28/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C5A

Purchased

No

270

Each

1,385.000

4

4



Bolt



u 11/09/20

Location

Loc Qty

Loc Code

FP-A

7

115835

7

ST350

1378

116419

28

116549

54

117343

500

117764

300

117872

496

x4

AN960C10L

NAS1149C0332

Purchased

No

270

Each

0.0000

10

10



washer



u 11/03/20

(x10)

u 11/09/20

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:			WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP		Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
				Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	71320
Description: Float Skidtube (412)		Part Number:	D3391-3
Inspection Dwg: D3391 Rev: H		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
14.000	+/-0.010	14.	✓		tape	mm.L-02
3.500	+/-0.010	3.500	✓		vern	JF-01
88.93	+/-0.030	88.935	✓		tape	mm.L-02
Ø3.200	+/-0.010	3.200	✓		mic	CNC-05
88.93	+/-0.030	88.935	✓		tape	mm.L-02
Ø3.750	+/-0.010	3.750	✓		mic	CNC-05
30° x 160° chamfer	+/-0.010	30° x 160	✓		vern	JF-01

Measured by: M99.L	Date: 11/08/15
Audited by: SA	Date: 11/8/22

HAAS Section						
1.526	+0.000/-0.030	1.525	✓		RQ.02	
7.500	+/-0.010	7.498	✓		RQ.15	
27.750	+/-0.010	27.750	✓		RQ.07	
31.750	+/-0.010	31.750	✓			
35.250	+/-0.010	35.250	✓			
3.300	+/-0.010	3.302	✓			
0.200	+/-0.010	0.200	✓			
3.520	+/-0.010	3.522	✓			
0.687	+0.010/-0.000	0.688	✓			
R0.062	+/-0.010	2.062	✓			
Ø0.484	+0.005/-0.001	0.485	✓			

Measured by: RQ	Date: 11.8.19
Audited by: SA	Date: 11/8/22

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	
G	09.11.16	Dimension 0.200 removed	KJ	
H	11.06.21	Dimension 44.995 removed	KJ	

63

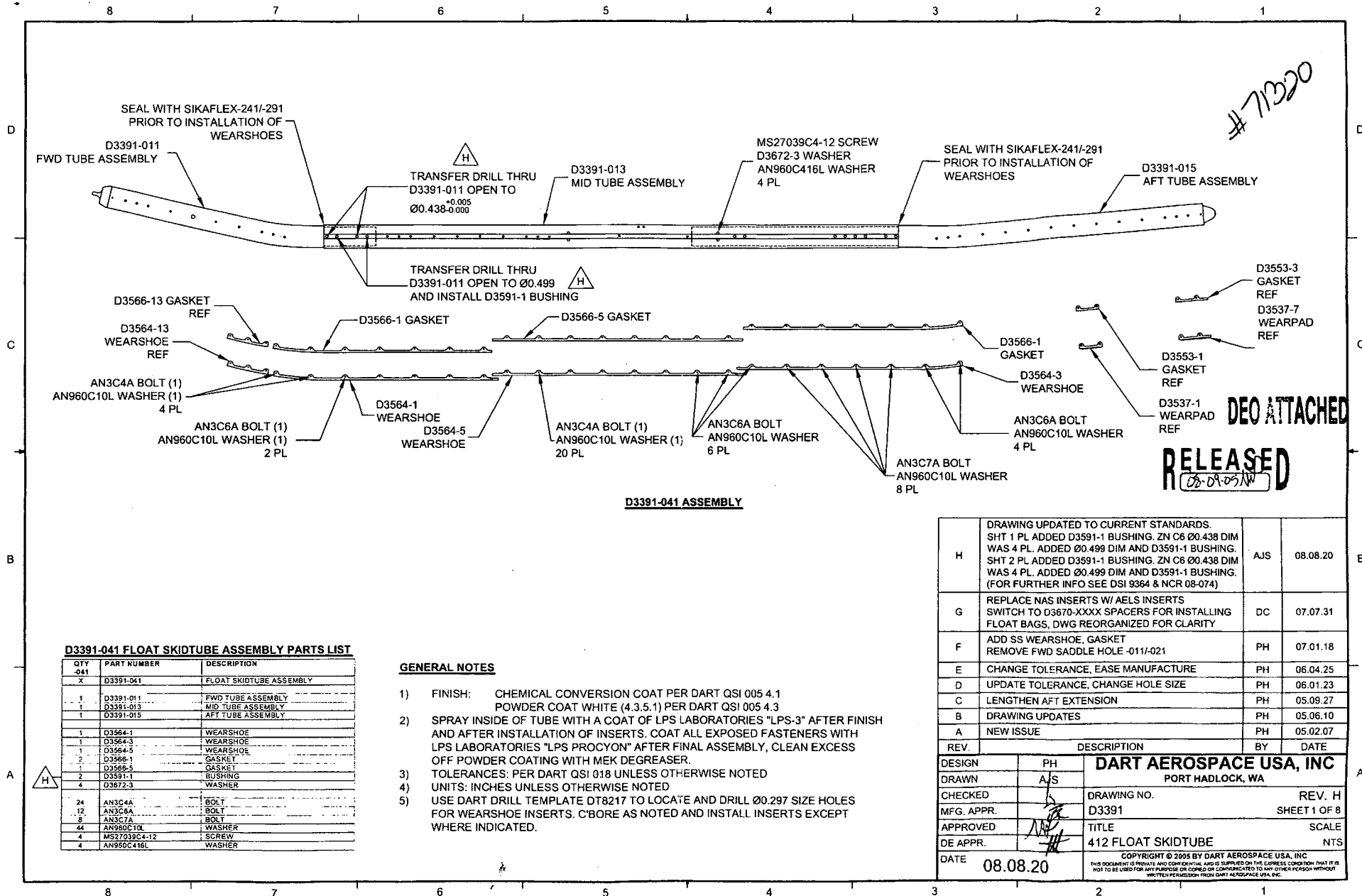
310

x

8118

11/11/11

11/11



W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

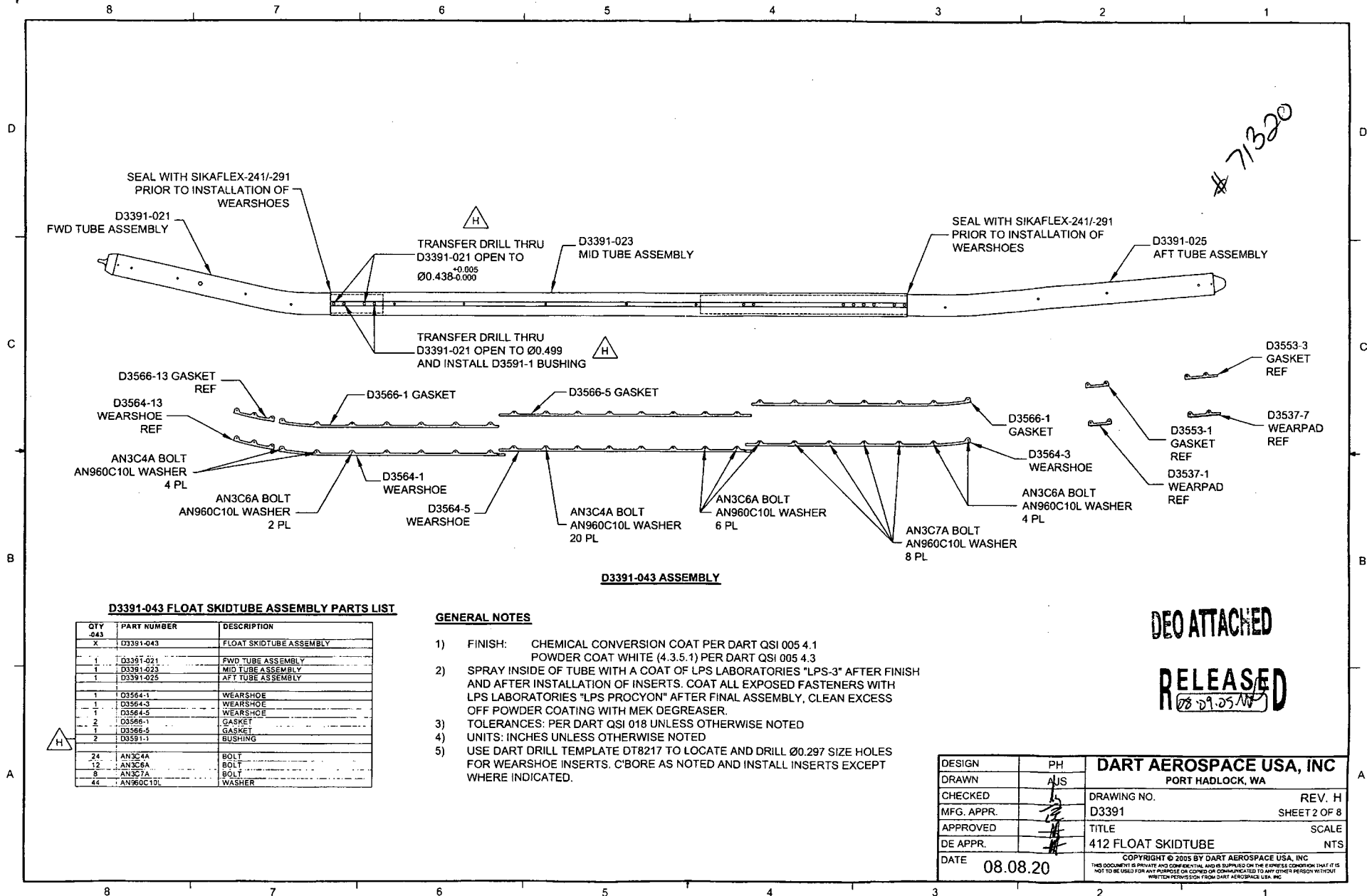
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP		Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
				Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

71320



D3391-043 ASSEMBLY

D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
1	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
2	D3591-1	BUSHING
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER

GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

DEO ATTACHED
RELEASED
08-09-05

DESIGN	PH	DART AEROSPACE USA, INC
DRAWN	AUS	PORT HADLOCK, WA
CHECKED		DRAWING NO. REV. H
MFG. APPR.		D3391 SHEET 2 OF 8
APPROVED		TITLE SCALE
DE APPR.		412 FLOAT SKIDTUBE NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

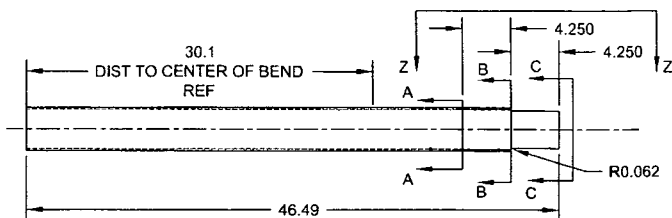
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

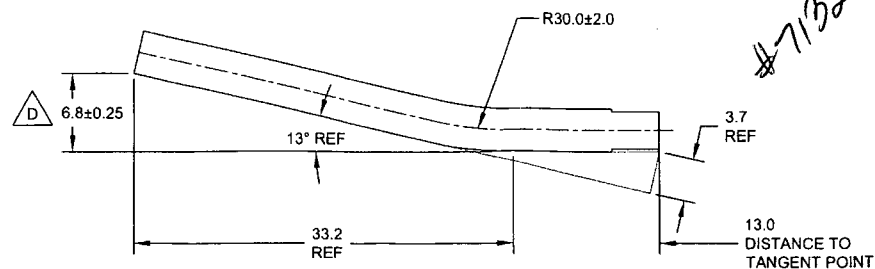
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

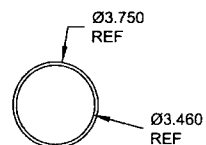
NOTE: Date & initial all entries



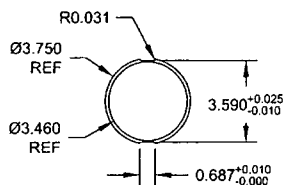
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



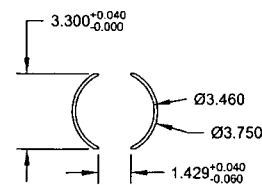
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



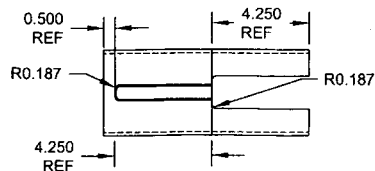
SECTION A-A
SCALE 2X



SECTION B-B
SCALE 2X



SECTION C-C
SCALE 2X



VIEW Z-Z
SCALE 2X

DEO ATTACHED
RELEASED
8-8-05

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED	<i>h</i>	DRAWING NO.	REV. H
MFG. APPR.	<i>GO</i>	D3391	SHEET 3 OF 8
APPROVED	<i>NA</i>	TITLE	SCALE
DE APPR.	<i>NA</i>	412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2003 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

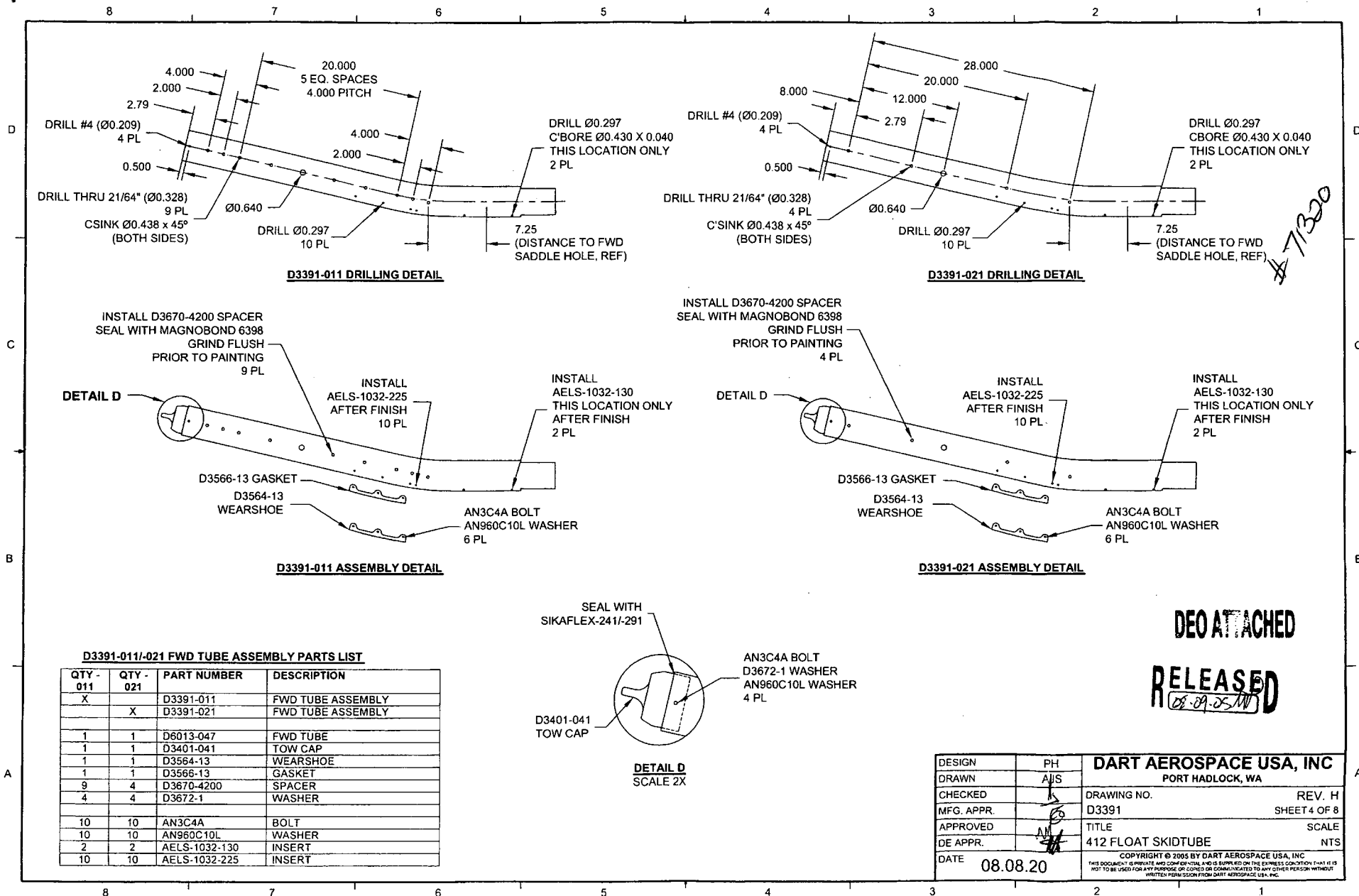
W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP		Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
				Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



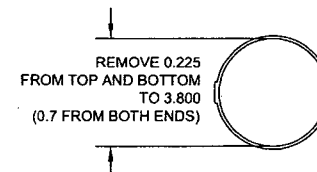
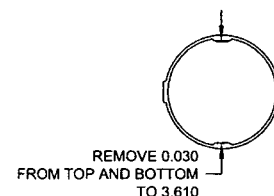
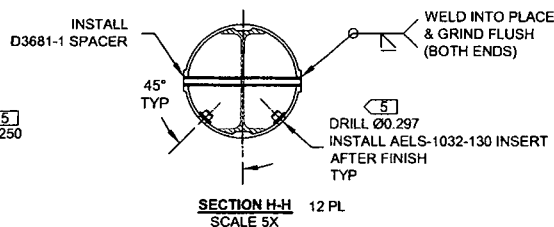
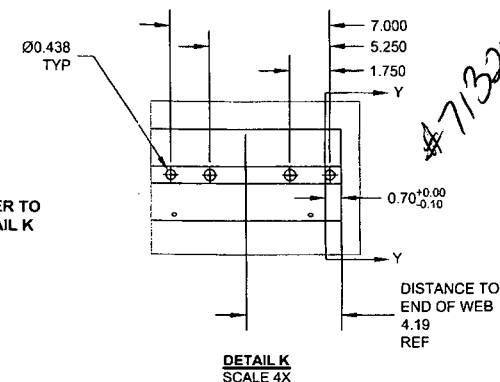
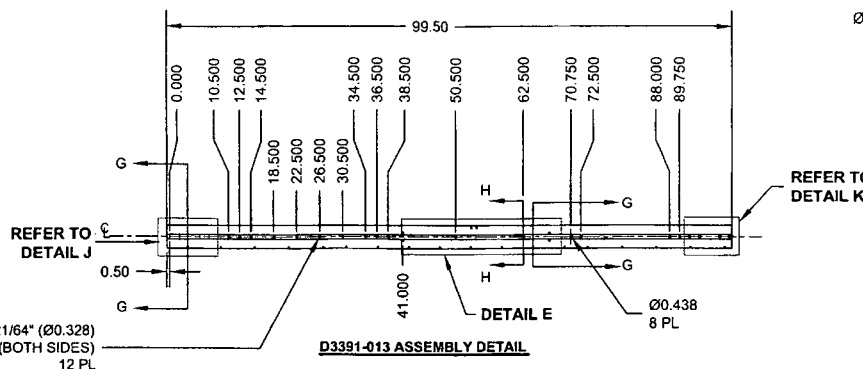
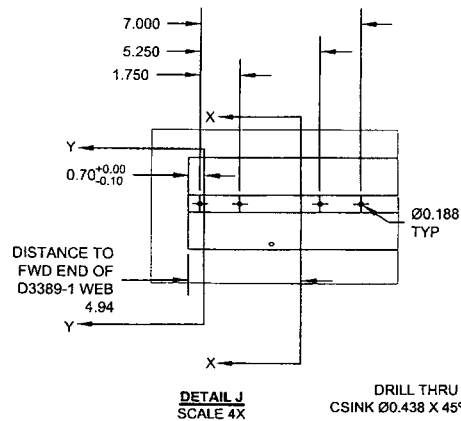
W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

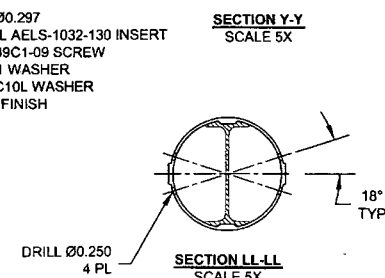
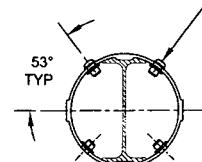
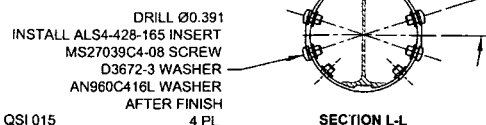
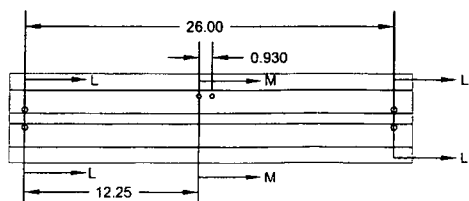


D3391-013 MID TUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
-013		
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW

D3391-013 MID TUBE ASSEMBLY

- MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- WELDING: PER DART QSI 004



DEO ATTACHED

RELEASED

DESIGN	PH	DART AEROSPACE USA, INC
DRAWN	AJS	PORT HADLOCK, WA
CHECKED		DRAWING NO. D3391
MFG. APPR.		REV. H
APPROVED		SHEETS 5 OF 8
DE APPR.		TITLE SCALE
DATE	08.08.20	412 FLOAT SKIDTUBE NTS

COPYRIGHT © 2005 BY DART AEROSPACE USA, INC
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC

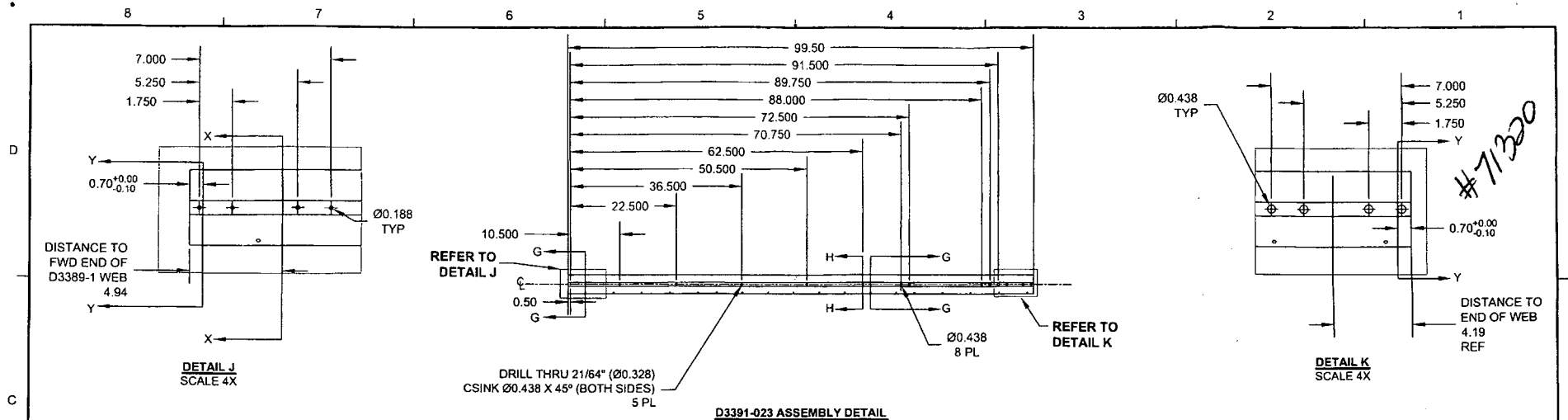
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

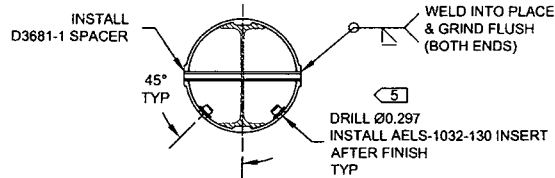
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

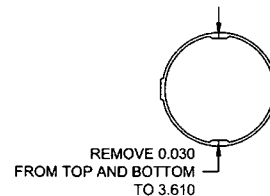
NOTE: Date & initial all entries



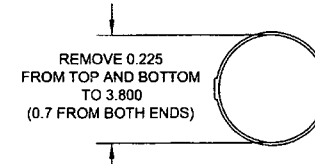
SECTION G-G
SCALE 5X



SECTION H-H
SCALE 5X



SECTION X-X
SCALE 5X



SECTION Y-Y
SCALE 5X

D3391-023 MID TUBE ASSEMBLY PARTS LIST

QTY -	PART NUMBER	DESCRIPTION
023		
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

D3391-023 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 6 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	<small>COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

DEO ATTACHED
RELEASED
28-05-14

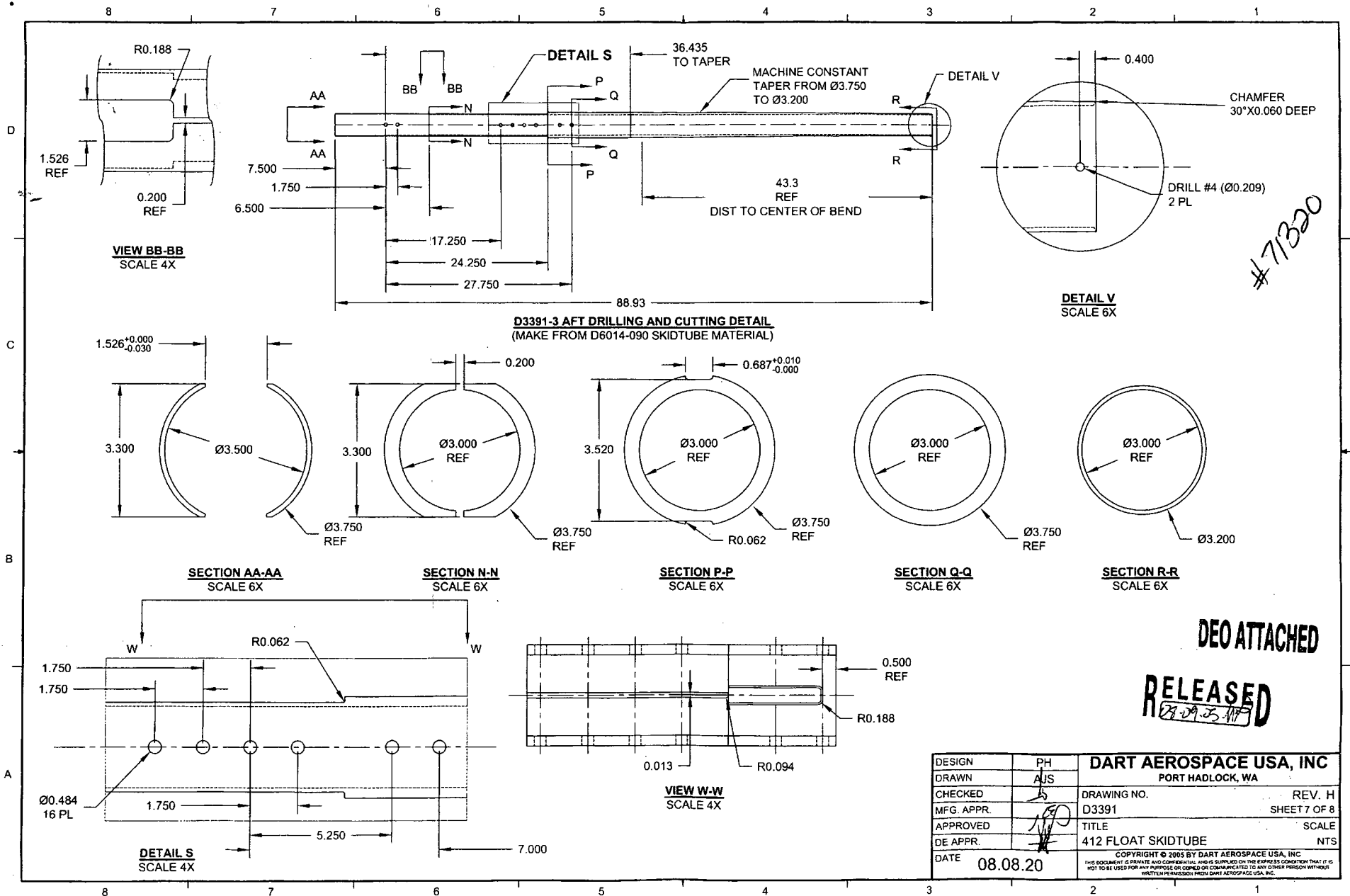
W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP		Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
				Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AUS	PORT HADLOCK, WA	
CHECKED	5	DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 7 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	<small>COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

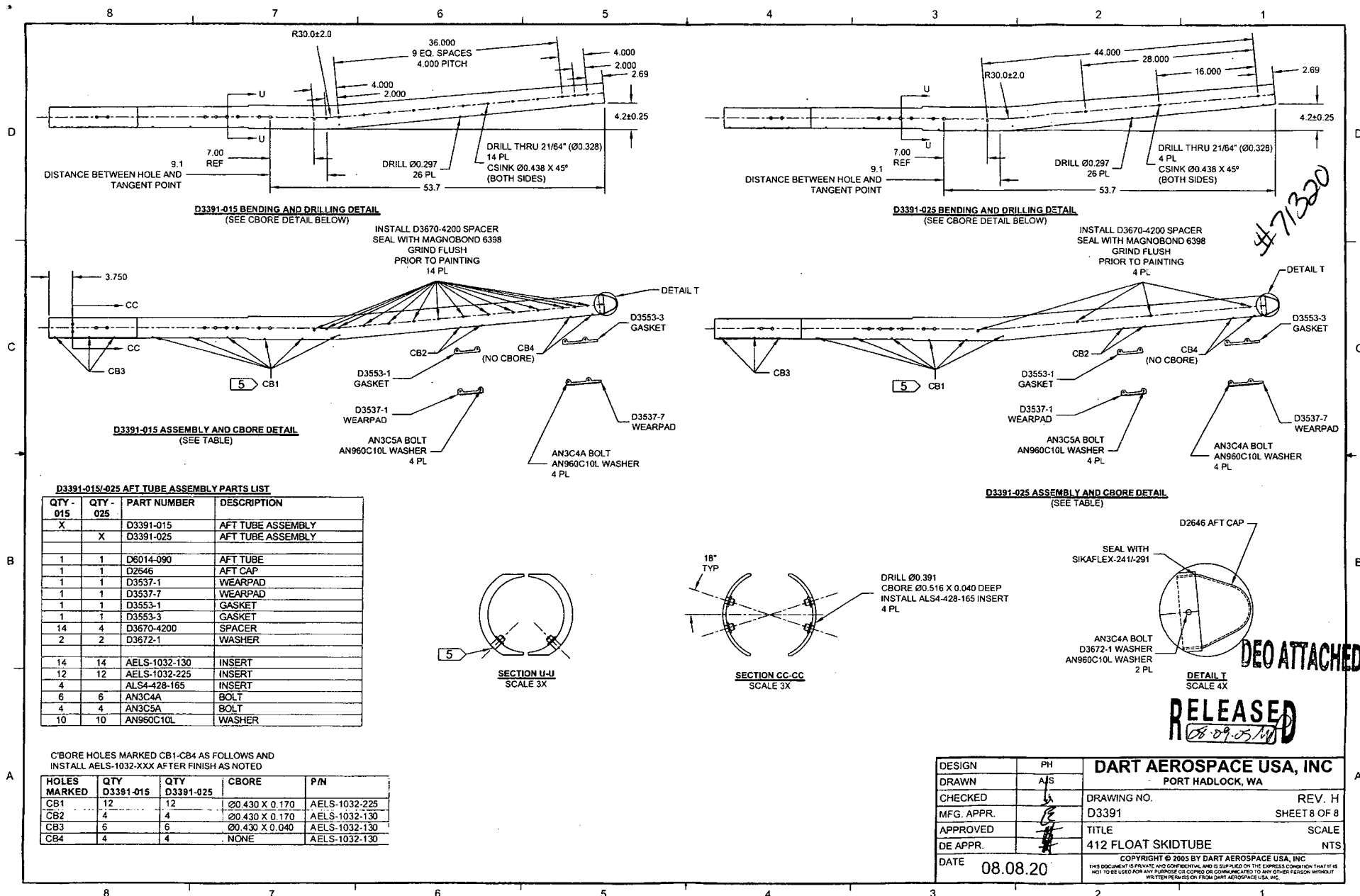
W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:			WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP		Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
				Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP		Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
				Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DRAWING NO. D3391	TITLE 412 FLOAT SKIDTUBE	REV. H	DART AEROSPACE USA, INC ENGINEERING ORDER		D.E.O. NO. D3391-H-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>CP</i>	CHECKED <i>h</i>	MFG. APPR. <i>AA</i>	APPROVED <i>MP</i>		DE APPR. <i>MP</i>		
DATE 09.09.23	DATE 04.04.24	DATE 09/09/25	DATE 09/09/30		DATE 09/09/30		

PURPOSE:

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF D3391-041/-043 SKIDTUBES.

CHANGE:

AMEND NOTE 2 OF D3391-041/-043 SKIDTUBE ASSEMBLIES (ZN A6-1, A6-2) AS FOLLOWS:

- 2) ~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH~~
~~AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH~~
LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS
OFF POWDER COATING WITH MEK DEGREASER.

RELEASED
2010-02-02

MP
#71320

COPYRIGHT © 2009 BY DART AEROSPACE USA, INC

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS
NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT
WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng./ Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries